# Clean up at Hunters Point Naval Shipyard

Presented by:
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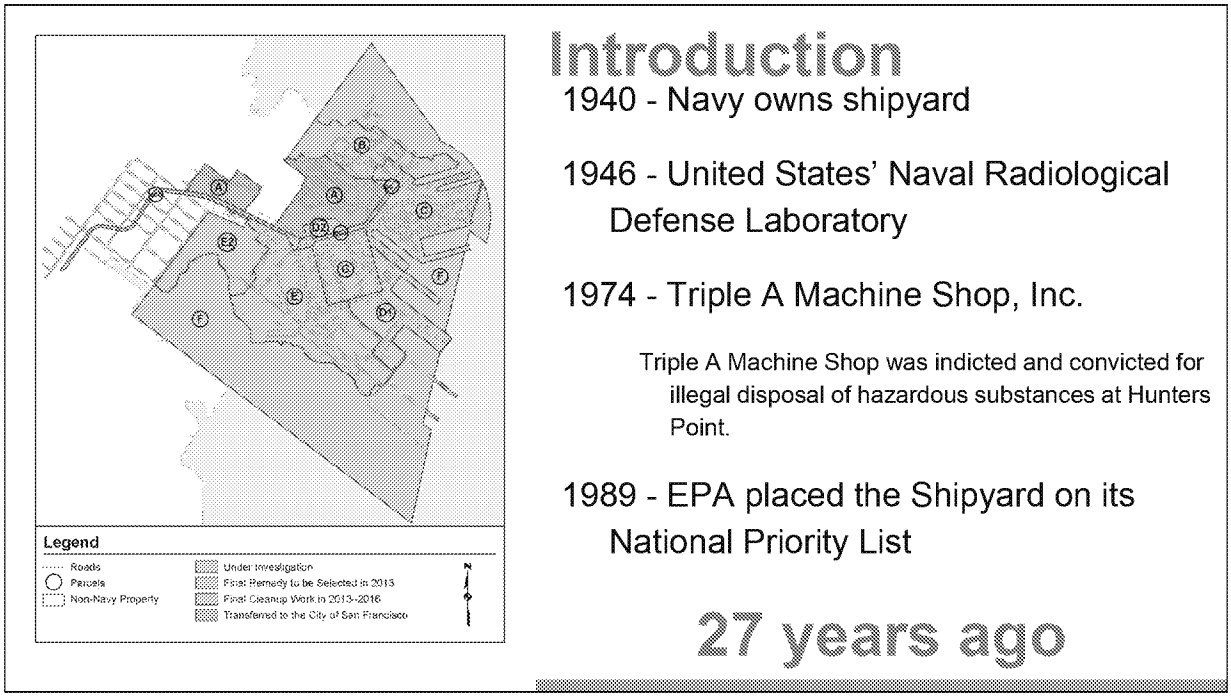
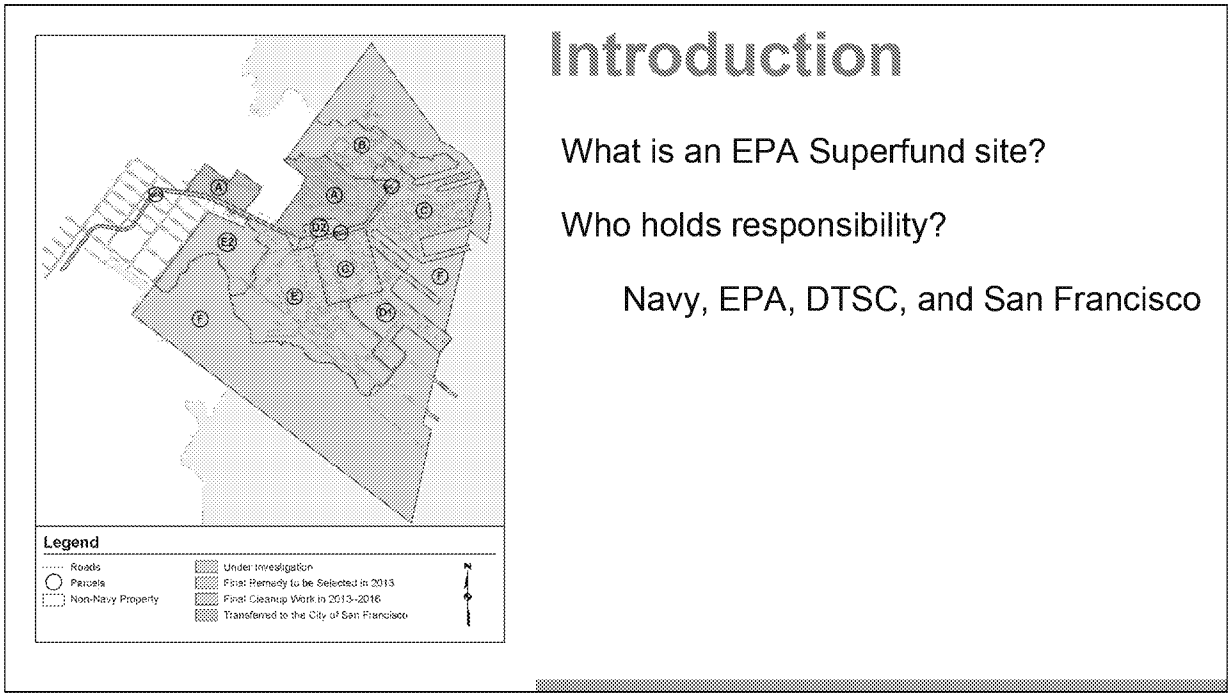



The area now known as Hunters Point Naval Shipyard was purchased by the US Navy in 1940, and in 1946 the base became home to the United States Naval Radiological Defense Laboratory, a division tasked with the study of nuclear weapons effects and the development of countermeasures. That same year, the Laboratory began the decontamination of several ships that had returned from nuclear weapons tests. The radioactive materials from these ships introduced chemicals such as Cesium, Strontium, Radium, and plutonium to the land and bay. Along with the ships, the some of the buildings at the Shipyard were used for radioactive laboratory operations and material storage or processing by NRDL.
The land was under different ownership between 1974 and 1986, but was returned to the Navy after this time and in 1989, 27 years ago, the EPA placed the Shipyard on its National Priority List. It's been on that list longer than I've been alive.




The severity of the contamination within HPNS lead the Navy to designate the site as eligible for the Base Realignment and Closure Program (BRAC). San Francisco saw the full closure of the base 21 years ago, in 1994 following which point cleanup began. Hunters Point is classified as an EPA Superfund site and is under the care of the Navy, EPA, DTSC, and the city of San Fransisco.

# Key Findings

Superfund law requires Hunters Point must be cleaned up consistent with EPA Superfund guidance

Cleanup has been using standards that violate this requirement and are substantially less protective

The public is therefore potentially exposed to greater risks than would be the case if the law had been followed

For all Parcels defined at Hunters Point, the remediation goals for radiologically impacted soil that was used by the Navy are way above remediation criteria established by the EPA.
Method for addressing contaminated soil includes placing layer of asphalt on top of impacted areas, which is not built to last and continues to put locals at risk.
Many of the clean up decisions are reliant on institutional controls such as forbidding future residents of Hunters Point from having a garden or grow produce in their yards as a way to minimize risk. – Lyndsey – ResRAD take into account depletion source based on environmental factors, some are more or less conservative depending on the radionuclide.
According to the EPA, The 25 mrem/yr dose limit utilized by the Navy at Hunters Point is not protective of Human Health.
120(a)(2) of CERCLA claims that cleanup of all federal facilities (i.e. Superfund sites) need to be done under EPA guidance; EPA guidance recommends the use of EPA Preliminary Remediation Goals (PRG's), not RESRAD. RESRAD is a computer model used to estimate radiological risk, however such model is prone to underestimate the risk by up to 10 times less than there actually is. In other words, cleaning up based on RESRAD estimations may leave behind 10 times as much waste as deemed legal by EPA.
The document entitled AEC Regulatory Guide 1.86 should not be used at Hunters Point because it was not created to be used to release contaminated materials under Superfund sites, and has been outdated for about half a century. – Lyndsey will look at MARSAM, used everywhere today

# Key Findings

The Navy is using a standard of 25 millirem per year, the equivalent of the public receiving 12 additional chest x-rays each year

**EPA either didn't catch this or allowed it to happen**

Lyndsey – not equivalent to a large dose at once. Also xray is not take into account ingestion, inhalation.
Navy used most conservative, which was 13 or 15 mrem/yr
Navy said typically 5 mrem/yr residual

# Key Findings

The Navy is using a 42 year old regulatory guide from the Atomic Energy Commission which **no longer exists**

EPA says the guide is not to be used

**EPA either didn't catch this or allowed it to happen**

AEC – eventually separated to NRC & DOE so it's really both. Each have different jurisdiction, but basically their regs are the same. NRC & DOE adopted the same. Now is a Nuclear Regulatory Commission. If any amendments, would be located in newsletters. How do we know it's the latest? Lyndsey will look up

# Key Findings

The Navy is shipping out for recycle and disposal, waste with radioactive contamination to sites not licensed or designed to receive it

**EPA either didn't catch this or allowed it to happen**

Navy & DTSC should answer

# Key Findings

Navy is using RESRAD model even though EPA guidance requires the use of its Calculator

**EPA either didn't catch this or allowed it to happen**

# Key Findings

Navy says it is using EPA preliminary remediation goals as its cleanup standards, but it is using them from 1991-**a quarter of a century old**- rather than current PRGs

**EPA either didn't catch this or allowed it to happen**

# Results

The Hunters Point cleanup standards are far more lax than EPA's current remediation goals recommend.

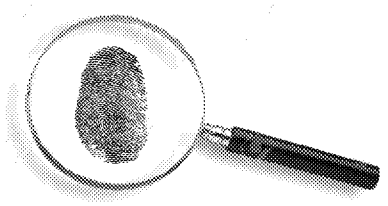
Sometimes 100s of times more lax

# Tetra Tech: False Samples

April 2014 Tetra Tech was caught Red-Handed

"Deliberately Falsified Radiation Readings" - NRC

Can any Tetra Tech measurements then be trusted?



Tetra Tech continues working.

This means they continue work even after being caught.

How could this be considered safe?

THE INVESTIGATIVE UNIT

NBC BAY AREA

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

February 11, 2016

Docket No. 03038199 License No. 29-31396-01
EA-15-230

Andrew N. Bolt
President
Tetra Tech EC, Inc.
1000 The American Road
Morris Plains, New Jersey 07950

SUBJECT: NRC OFFICE OF INVESTIGATIONS REPORT NO. 1-2014-018

Dear Mr. Bolt:

This letter refers to an investigation conducted by the U.S. Nuclear Regulatory Commission (NRC) Office of Investigations (OI) between April 29, 2014, and September 17, 2015, to determine, in part, whether employees of Tetra Tech EC, Inc. (Tetra Tech), deliberately falsified soil sample surveys from the area referred to as 'Parcel C' at the U.S. Navy's Hunter's Point Naval Shipyard (HPNS) in San Francisco, California. A Factual Summary of OI Investigation Report No. 1-2014-018 is enclosed (Enclosure 1) with this letter.

The RTS, who was responsible for monitoring the work the technicians performed in the field, testified to OI that, on approximately 10 to 15 occasions, he deviated from where the engineers instructed the technicians to dig without following protocol. However, the RTS stated that this was done to avoid obstructions (e.g., utility lines, buildings) within the specified area. Although the RTS denied obtaining samples from unspecified locations in order to obtain lower contamination levels, he confirmed that he had signed two chain-of-custody forms for samples that the licensee determined had anomalously low levels for the specified location. OI concluded that the evidence supported that the samples were obtained from a location other than the one specified.

Based on the evidence gathered during the OI investigation, it appears that the RCT and RTS had deliberately falsified soil sample surveys of the HPNS Parcel C.

The NRC, which is known to be lax, found Tetra Tech's behavior to warrant investigation and intervention.

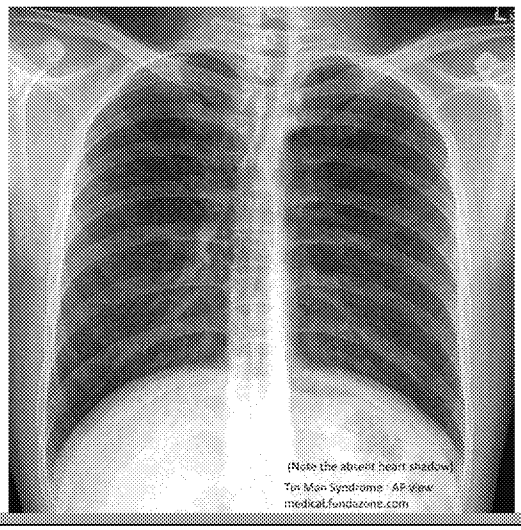
## CERCLA 120(a)(2)

"No department, agency, or instrumentality of the United States may adopt or utilize any such guidelines, rules, regulations, or criteria which are inconsistent with the guidelines, rules, regulations, and criteria established by the Administrator under this chapter."

# It's time for your Monthly Check Up

25 mrem/yr = 1 chest x-ray/month

- Does this feel safe?
- Is this necessary?
- Can you live like this?



# Old Guides

AEC Regulatory Guide 1.86 (**1974**)

How trustworthy is a **42 year old** guide?

This guide is so outdated, that the agency which issued it no longer even **exists**!

EPA says that the guidance is not to be used, and yet the Navy is using it.


The waste leaving Hunters Point is not certified to be shipped to any of the facilities that the Navy has highlighted as being potential recipients.

The documentation for the Transportation Manifests can only be found within the RACR (AFTER the site is completed) and fails to provide any information about the standards used to differentiate the waste.

During our conversation with the Navy, EPA, and the DTSC we requested access to information pertaining to the release criteria for Hunters Point waste. The Navy has been less than forthcoming on this and a number of other matters which we have brought to their attention.

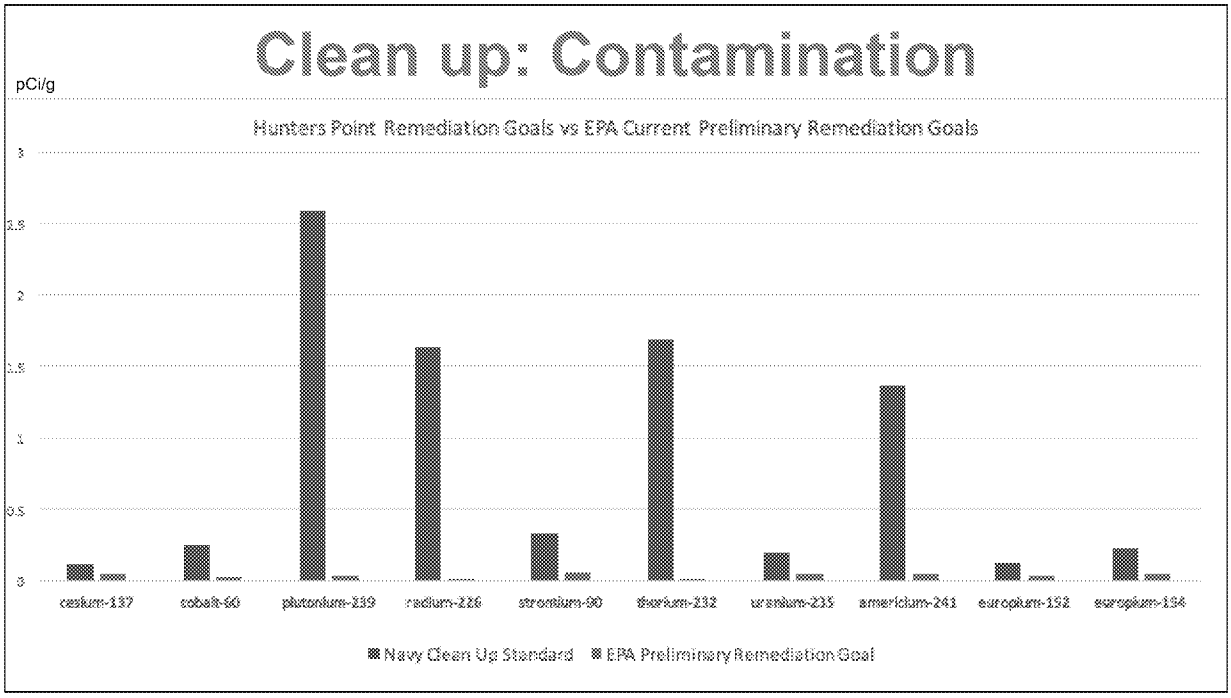
# The Mess is Spreading

## Level I and Level II Waste Disposal Sites


These sites are not, as of yet, confirmed to be where the Navy disposed of waste.
Each site was recognized as being a potential recipient for waste coming out of Hunters Point

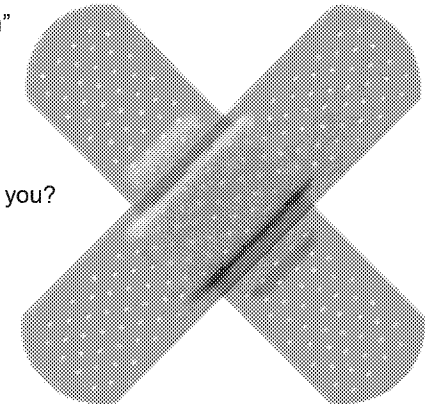
# Comparison of EPA PRGs and Remediation Goals

| Radionuclide | Hunters Point Remediation Goal | Current EPA Residential PRG | Factor by which HPNS Standards are Relaxed |
|---|---|---|---|
| | (pCi/g) | Preliminary Remediation Goal (PRG) | Goals Compared to EPA PRGs |
| cesium-137 | 0.113 | 0.0466 | **2.4** |
| cobalt-60 | 0.252 | 0.0319 | **7.9** |
| plutonium-239 | 2.59 | 0.0357 | **72.5** |
| radium-226 * | 1.633 | 0.0063 | **259.2** |
| strontium-90 | 0.331 | 0.0639 | **5.2** |
| thorium-232 | 1.69 | 0.00347 | **487** |
| uranium-235 | 0.195 | 0.0475 | **4.1** |
| americium-241 | 1.36 | 0.047 | **28.9** |
| europium-152 | 0.13 | 0.0376 | **3.5** |
| europium-154 | 0.23 | 0.0452 | **5.1** |


Clean up: Contamination
pCi/g
Hunters Point Remediation Goals vs EPA Current Preliminary Remediation Goals
3
2.5
2
1.5
1
0.5
0
cesium-137
cobalt-60
plutonium-239
radium-226
stronium-90
thorium-232
uranium-235
americium-241
europium-152
europium-154
Navy Clean Up Standard
EPA Preliminary Remediation Goal

# EPA/Navy Cleanup Plan for Hunters Point

- "Durable Cover Solution"
- Cover Up vs. Clean Up
- What does this mean to you?
- Long Term Problems



Rather than clean up the contamination, the Navy is relying upon

"Institutional Controls"


No creating closed structures

# Conclusions

Clean up efforts at Hunters Point Naval Shipyard **are not** consistent with EPA guidelines

Old/Out-of-date Standards that don't comply with current EPA Guidance

Safety Concerns

Disposal of Radioactive Materials in Unlicensed Sites

Clean Up vs. Cover Up

# Questions ?